

Appendix B

Deviations from the PDI Work Plan

Field Deviation Form

Deviation Subject: PCB Congener Method Title

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Table 2 of the SQAPP, the Recommended Analytical Method for testing of the PCB-001 – 209 parameter is listed as “USEPA 1668A.”

Reason for deviation:

USEPA 1668A is not the most recent method for testing PCB-001 – 209.

Description of deviation:

Substitute USEPA 1668C for USEPA 1668A.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Cindy Fields	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shell enberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Eliminating Collection of Discrete Grab Sample Archives

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, one archive jar will be filled for each discrete grab sample in case it is later determined that individual analyses would be useful to refine the results of the composite sample.

Reason for deviation:

Collection of archives for each discrete sample seems to have limited benefit given the close proximity of the samples to each other and similar visual observations across discrete samples at each location.

Description of deviation:

Per email correspondence with Josie Clark on April 16, 2019, discrete sample archives will be eliminated from the PDI program unless visual observations indicate otherwise. Archive samples will still be collected from the composite samples; sufficient volume is available in the composite archive jars to allow for contingency testing.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-04

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Riprap and other debris present in the footprint of Pier 5 prevented the collection of viable samples at location SG-04 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-04 was offset by approximately 75 feet from the target, as approved by Josie Clark on site on April 16, 2019, and per emails with USEPA.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-05

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Recovery issues (i.e., poor recovery) prevented the collection of viable samples at location SG-05 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-05 was offset by approximately 75 feet from the target, as approved by Josie Clark on site.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-06

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Riprap and other debris present in the footprint of Pier 5 prevented the collection of viable samples at location SG-06 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-06 was offset by approximately 100 feet from the target, as approved by Josie Clark on site.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-34

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Steep slope, riprap, and other debris present northwest of Wheeler Bay prevented the collection of viable samples at location SG-34 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-34 was offset by approximately 75 feet from the target, as approved in an email from Josie Clark on May 1, 2019.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-35

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Steep slope, riprap, and other debris present at southwest end of Slip 1 prevented the collection of viable samples at location SG-35 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-35 was offset by approximately 55 feet from the target, as approved in an email from Josie Clark on May 1, 2019.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-62

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Steep slope, riprap, and other debris present along the north bank of Slip 1 prevented the collection of viable samples at location SG-62 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-62 was offset by approximately 80 feet from the target, as approved in an email from Josie Clark.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-63

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Steep slope, riprap, and other debris present along the north bank of Slip 1 prevented the collection of viable samples at location SG-63 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-63 was offset by approximately 75 feet from the target, as approved in an email from Josie Clark.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Offset Greater than 50 Feet for SG-64

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Per Section 3.3.1.2.1 of the SQAPP, if no material is recovered after three attempts due to bedrock, riprap, or other obstructions, the location will be offset within a 50-foot (15.2-meter) radius and another attempt will be made. If the required adjustment results in more than a 50-foot (15.2-meter) offset from the original location, USEPA will be contacted to discuss the potential for an alternate location.

Reason for deviation:

Steep slope, riprap, and other debris present along the north bank of Slip 1 prevented the collection of viable samples at location SG-64 within the 50-foot offset.

Description of deviation:

The actual sample location for SG-64 was offset by approximately 115 feet from the target, as approved in an email from Josie Clark.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: SG-07 Eliminated from Sampling Program

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

A composite sediment grab sample was to be collected at location SG-07 (NAD83 Easting 7620289.70 feet, Northing 713046.50 feet) consistent with the procedures of the sampling program.

Reason for deviation:

Three grab samples were attempted at location SG-07 with no recovery. Consistent with the "Contingency Plan for Field Condition Impediments to Standard Surface Sediment Sample Collection" in Section 3.3.1.2.1 of the SQAPP, three additional attempts were made at a 40-foot offset from the target location. Location SG07 is located within the Former Pier 5 pile field, and continued attempts to offset the target location north have failed to produce viable samples.

Description of deviation:

Per phone and email conversations with Josie Clark on April 16, 2019, location SG-07 will be eliminated from the sampling program.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: SG-65 Eliminated from Sampling Program

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

A composite sediment grab sample was to be collected at location SG-65 (NAD83 Easting 7619725.51 feet, Northing 714741.59 feet) consistent with the procedures of the sampling program.

Reason for deviation:

Three grab samples were attempted at location SG-65 with no recovery. Consistent with the "Contingency Plan for Field Condition Impediments to Standard Surface Sediment Sample Collection" in Section 3.3.1.2.1 of the SQAPP, three additional attempts were made within a 50-foot offset from the target location. Location SG-65 is located along the north bank of Slip 1 in the presence of a steep slope, riprap, and debris. Offsetting location SG-65 enough to produce viable samples will result in location SG-65 being too close to location SG-57 to produce usable data.

Description of deviation:

Per an email from Josie Clark on April 18, 2019, location SG-65 will be eliminated from the sampling program.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Removal of Station SG/SC-39

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

Station SG/SC-39 was proposed as part of the underpier diver-collected sample program in the SQAPP.

Reason for deviation:

At Terminal 4 underpier location SG-39, the diver encountered significant amounts of unstable debris, steep slopes, horizontal pilings, and insufficient substrate for sampling.

Description of deviation:

Station SG/SC-39 was removed from the sampling program after communicating the health and safety issues to USEPA. This deviation was approved in an email from Hunter Young on May 31, 2019.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenberger	Date:	10/4/19

Field Deviation Form

Deviation Subject: Modifications to the Underpier Core Framework

Project Name: Terminal for Pre-Remedial Design Investigation

Standard procedure for field collection:

The following contingency framework will be followed if encountered field conditions preclude the collection of acceptable diver-collected subsurface samples at planned locations:

- If refusal is encountered within the top foot (30 centimeters) of the mudline, the location will be offset within a 50-foot (15.2-meter) radius of the planned location and a new core will be attempted, preferably downslope where greater thickness is anticipated. If a suitable location within the allowable 50-foot (15.2-meter) offset is not encountered after three attempts, the sample location will be abandoned until further discussion with USEPA.
- In the event that any of the proposed subsurface sample locations are inaccessible to the sample vessel or a sample otherwise cannot be collected (e.g., safety considerations, presence of debris, or poor recovery), the location may be adjusted within a radius of 50 feet (15.2 meters) from planned location. If a greater offset distance is required, USEPA will be consulted, and the change will be documented in a field deviation form.
- No more than three attempts will be made to relocate a underpier core.

Reason for deviation:

The underpier diver-assisted core collection program for the Terminal 4 site encountered challenges meeting the contingency framework outlined in the SQAPP due to on-site conditions (sediment thickness), diver safety, and recoveries.

Description of deviation:

Based on our experiences, diver fatigue with multiple coring attempts, and the objectives of the program, we modified the diver core program as follows:

- The diver team used a steel probing rod to estimate sediment thickness prior to attempting a core at the target location.
- The diver probed for suitable sediment depth (3 feet or more) downslope toward the face of the pier if sufficient material was not found at the target location.

- If 3 feet or more of sediment thickness was identified with the probe, a core was attempted.
- If core penetration was greater than 1.5 feet, a core was collected.
- No more than one core attempt was made at each station.
- If 3 or more feet of sediment was not identified with the probe within 50 feet downslope of the target location, the location was abandoned.

Special equipment, materials, or personnel required:

None.

Initiator's name:	Ben Johnson	Date:	10/4/19
Field Manager:	Julia Fitts	Date:	10/4/19
Project Manager:	Amanda Shellenger	Date:	10/4/19